

IN THE CLAIMS:

Please cancel Claims 6-9 and 23-31 without prejudice and without disclaimer of subject matter.

For the Examiner's convenience, all of the remaining claims in this application, whether amended or not, are set forth below.

Please amend Claims 1-5 and 10-16, and add new Claims 32-44 to read as follows. A marked-up copy of the amended claims, showing the changes made thereto, is attached.

1. (Amended) A substrate structure which is a precursor to an electron source, and on which an electron emission device of the electron source is to be disposed, the electron emission device including at least a conductive film, said substrate structure comprising:

a substrate containing Na;

a first layer containing SiO₂ as a main component formed directly or indirectly on said substrate; and

a second layer containing an electron conductive oxide formed directly or indirectly on said substrate,

wherein said first and second layers are disposed adjacent a side of said substrate where the electron emission device is to be disposed.

No amendment in this limitation

2. (Amended) The substrate structure according to claim 1, wherein said first layer is formed on said substrate containing Na, and said second layer is formed on the first layer.

3. (Amended) The substrate structure according to claim 2, wherein said second layer contains SiO₂ as its ingredient.


4. (Amended) The substrate structure according to claim 2, wherein said first layer contains at least one kind of element to be selected from an element group comprising P, B, and Ge.

5. (Amended) The substrate structure according to claim 3, wherein said first layer contains at least one kind of element to be selected from an element group comprising P, B, and Ge.

10. (Amended) The substrate structure according to any of claims 1 through 5, wherein the conductive film has an electron emission portion which is disposed on said first or second layer, and said electron emission device also includes a pair of electrodes connected with the conductive film.

11. (Amended) An electron source comprising:

a substrate structure according to any one of claims 1 through 5; and
the electron emission device disposed on said first layer or said
second layer of the substrate structure.



12. (Amended) An electron source comprising:
a substrate structure according to any one of claims 1 through 5; and
a plurality of electron emission devices disposed on said first layer or
said second layer of the substrate structure.

13. (Amended) An electron source comprising:
a substrate structure according to any one of claims 1 through 5; and
a plurality of electron emission devices disposed on said first layer or
said second layer of the substrate structure; and
a plurality of row direction wirings and a plurality of column
direction wirings in which the plurality of electron emission devices are matrix-wired.

14. (Amended) The electron source according to claim 11, wherein said
conductive film has an electron emission portion which is disposed on said first or second
layer, and said electron emission device also includes a pair of electrodes connected with the
conductive film.

15. (Amended) The electron source according to claim 12, wherein the conductive film has an electron emission portion which is disposed on said first or second layer, and said electron emission device also includes a pair of electrodes connected with the conductive film.

16. (Amended) The electron source according to claim 13, wherein the conductive film has an electron emission portion which is disposed on said first or second layer, and said electron emission device also includes a pair of electrodes connected with the conductive film.

17. (Not Changed From Prior Version) An image forming apparatus comprising:

an electron source according to claim 11; and

an image forming member to form an image with irradiation of electrons emitted from the electron source.

18. (Not Changed From Prior Version) An image forming apparatus comprising:

an electron source according to claim 12; and

an image forming member to form an image with irradiation of electrons emitted from the electron source.

19. (Not Changed From Prior Version) An image forming apparatus comprising:

an electron source according to claim 13; and
an image forming member to form an image with irradiation of electrons emitted from the electron source.

20. (Not Changed From Prior Version) An image forming apparatus comprising:

an electron source according to claim 14; and
an image forming member to form an image with irradiation of electrons emitted from the electron source.

21. (Not Changed From Prior Version) An image forming apparatus comprising:

an electron source according to claim 15; and
an image forming member to form an image with irradiation of electrons emitted from the electron source.

22. (Not Changed From Prior Version) An image forming apparatus comprising:

an electron source according to claim 16; and

an image forming member to form an image with irradiation of electrons emitted from the electron source.

--32. (New) A substrate structure (which is a precursor to an electron source, and on which an electron emission device of the electron source is to be disposed, the electron emission device including at least a conductive film, said substrate structure) comprising:

a substrate;

a first layer containing SiO_2 as a main component formed directly or indirectly on said substrate; and

a second layer containing electron conductive oxide formed directly on said substrate.

33. (New) The substrate structure according to claim 32, wherein said first layer is formed on said substrate, and said second layer is formed on the first layer.

34. (New) The substrate structure according to claim 33, wherein said second layer contains SiO_2 as its ingredient.

35. (New) The substrate structure according to claim 33, wherein said first layer contains at least one kind of element to be selected from an element group comprising P, B and Ge.

36. (New) The substrate structure according to claim 34, wherein said first layer contains at least one kind of element to be selected from an element group comprising P, B and Ge.

37. (New) The substrate structure according to claim 32, wherein said second layer is formed on said substrate, and said first layer is formed on the second layer.

38. (New) The substrate structure according to claim 37, wherein said second layer contains SiO_2 as its ingredient.

39. (New) The substrate structure according to claim 37, wherein said first layer contains at least one kind of element to be selected from an element group comprising P, B and Ge.

40. (New) The substrate structure according to claim 38, wherein said first layer contains at least one kind of element to be selected from an element group comprising P, B and Ge.

41. (New) The substrate structure according to any of claims 32 through 40, wherein the conductive film has an electron emission portion which is disposed on said first or second layer, and the electron emission device also includes a pair of electrodes connected with the conductive film.

42. (New) An electron source comprising:
a substrate structure according to any one of claims 32 through 40;
and
the electron emission device disposed on said first layer or said second layer of the substrate structure.

43. (New) An electron source comprising:
a substrate structure according to any one of claims 32 through 40;
and
a plurality of electron emission devices disposed on said first layer or said second layer of the substrate structure.

44. (New) An electron source comprising:
a substrate structure according to any one of claims 32 through 40;
and